202306UECM1404OE1a

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Review of preview

Started on	Thursday, 29 June 2023, 04:12 PM
Completed on	Thursday, 29 June 2023, 04:13 PM
Time taken	42 secs
Grade	**0** out of a maximum of 10 (**0**%)

1
Marks: 1

Simon deposits 13,000 in a bank. During the first year, the bank credits an annual effective rate of interest i. During the second year, the bank credits an annual effective rate of interest (i-3%). At the end of two years, he has 15,210.00 in the bank. Calculate i. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.096769
Marks for this submission: 0/1.

2
Marks: 1

Money accumulates in a fund at an effective annual interest rate of i during the first 10 years, and at an effective annual interest rate of 3.5i thereafter. A deposit of 1 is made into the fund at time 0. It accumulates to 3.41 at the end of 20 years and to 7.98 at the end of 29 years. What is the value of deposit at the end of 14 years? _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 1.928715
Marks for this submission: 0/1.

3
Marks: 1

An investor puts 160 into Fund X and 160 into Fund Y. Fund Y earns compound interest at the annual rate of j > 0, and Fund X earns simple interest at the annual rate of 1.05j. At the end of 2 years, the amount in Fund Y is equal to the amount in Fund X. Calculate the amount in Fund Y at the end of 8 years. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 342.97421
Marks for this submission: 0/1.

4
Marks: 1

Jeremy borrows 1,000 from Becky at an anuual effective rate of interest i. He agrees to pay back 1,000 after 6 years and 864.3502 after another 6 years. Three years after his first payment, Jeremy repays the outstanding balance. What is the amount of Jeremy's second payment? _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 693.00582
Marks for this submission: 0/1.

5
Marks: 1

At an annual effective interest rate of i, $i > 0$, the following are all equal:

- the present value of 20,000 at the end of 9 years;
- the sum of the present values of 6,000 at the end of year t and 62,000 at the end of year $2t$; and
- 10,878.67 immediately.

Calculate the present value of a payment of 11,000 at the end of year $t+4$ using the same annual effective interest rate. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 3132.515422
Marks for this submission: 0/1.

6
Marks: 1

A deposit of 360 is made into a fund which pays an annual effective interest rate of 7% for 19 years. At the same time, 180 is deposited into another fund which pays an annual effective rate of discount of d for 19 years. The amounts of interest earned over the 19 years are equal for both funds. Calculate d. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.091816
Marks for this submission: 0/1.

7
Marks: 1

Jenny deposits 4,000 into a bank account. The bank credits interest at a nominal annual rate of i convertible semiannually for the first 11 years and a nominal annual rate of 2i convertible quarterly for all years thereafter. The accumulated amount in the account at the end of 8 years is X. The accumulated amount in the account at the end of 16 years is 4,740.06. Calculate X. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 4267.223659
Marks for this submission: 0/1.

8
Marks: 1

Jeff deposits 16 into a fund today and 32 16-year later. Interest for the first 9 years is credited at a nominal discount rate of d compounded quarterly, and thereafter at a nominal interest rate of 6% compounded semiannually. The accumulated balance in the fund at the end of 37 years is 255. Calculate d. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.06
Marks for this submission: 0/1.

9
Marks: 1

A loan of 10,000 is made at an interest rate of 16% compounded quaterly. The loan is to be repaid with three payments: 4,000 at the end of first year, 8,000 at the end of 5-th year, and the balance at the end of the tenth year. Calculate the amount of final payment. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 14065.490919
Marks for this submission: 0/1.

10
Marks: 1

You are given $\delta_t = 2/(1+t)$. A payment of 310 at the end of 3 years and 620 at the end of 6 years has the same present value as a payment of 210 at the end of 2 years and X at the end of 5 years. Calculus X. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 313.010204
Marks for this submission: 0/1.